0.a. Goal

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

0.b. Target

Target 4.1: By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

0.c. Indicator

Indicator 4.1.2: Completion rate (primary education, lower secondary education, upper secondary education)

0.e. Metadata update

May 2021

0.f. Related indicators

Combined with SDG indicator 4.1.1 – proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics – the completion rate can provide information on the percentage of children in a given cohort who achieve minimum proficiency in reading and mathematics.

0.g. International organisations(s) responsible for global monitoring

UNESCO Institute for Statistics

1.a. Organisation

UNESCO Institute for Statistics

2.a. Definition and concepts

Definition:

Percentage of a cohort of children or young people aged 3-5 years above the intended age for the last grade of each level of education who have completed that grade.

Concepts:

The intended age for the last grade of each level of education is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade.

For example, if the official age of entry into primary education is 6 years, and if primary education has 6 grades, the intended age for the last grade of primary education is 11 years. In this case, 14-16 years (11 + 3 = 14 and 11 + 5 = 16) would be the reference age group for calculation of the primary completion rate.

2.b. Unit of measure

Proportion

2.c. Classifications

The International Standard Classification of Education (ISCED) is used to define primary, lower secondary and upper secondary education.

3.a. Data sources

The data can be obtained from population censuses and household surveys that collect information on the highest level of education and/or grade completed by children and young people in a household. Typical questions in a survey to collect data on educational attainment are:

- What is the highest level of education [name of household member] has attended?
- What is the highest grade of education [name of household member] has completed at that level?

Sources include publicly available data from Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), European Union Statistics on Income and Living Condition (EU-SILC), the Integrated Public Use Microdata Series (IPUMS), and national household surveys and censuses.

3.b. Data collection method

Data from all publicly available household surveys and censuses with the required information are compiled and used to calculate the completion rate. For international comparability, national data are mapped to the ISCED before indicator calculation.

Indicator values intended for dissemination and addition to the global SDG Indicators Database are submitted by the UNESCO Institute for Statistics to National Statistical Offices, Ministries of Education or other relevant agencies in individual countries for their review and feedback.

3.c. Data collection calendar

Household survey and census datasets are publicly available from the sources described above and do not follow any particular release calendar.

3.d. Data release calendar

Completion rates are released twice per year by the UNESCO Institute for Statistics, around February and September.

3.e. Data providers

Household survey and census datasets are publicly available from the sources described above and national statistical agencies.

3.f. Data compilers

UNESCO Institute for Statistics.

3.g. Institutional mandate

The UNESCO Institute for Statistics (UIS) is the statistical branch of the United Nations Educational, Scientific and Cultural Organization (UNESCO). The Institute produces internationally comparable data and methodologies in the fields of education, science, culture and communication for countries at all stages of development.

The Education 2030 Framework for Action 100 has clearly states that: "*In recognition of the importance of harmonization of monitoring and reporting, the UIS will remain the official source of cross-nationally comparable data on education. It will continue to produce international monitoring indicators based on its annual education survey and on other data sources that guarantee international comparability for more than 200 countries and territories. In addition to collecting data, the UIS will work with partners to develop new indicators, statistical approaches and monitoring tools to better assess progress across the targets related to UNESCO's mandate, working in coordination with the SDG-Education 2030 SC"*

4.a. Rationale

The indicator is explicitly referenced in the text of target 4.1: 'ensure that all girls and boys complete […] primary and secondary education'. A completion rate at or near 100% indicates that all or most children and adolescents have completed a level of education by the time they are 3 to 5 years older than the official age of entry into the last grade of that level of education. A low completion rate indicates low or delayed entry into a given level of education, high drop-out, high repetition, late completion, or a combination of these factors.

The completion rate can be used either as a self-standing indicator or in combination with SDG indicator 4.1.1 (proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics). Combining the completion rate with indicator 4.1.1 provides information on the percentage of children or young people in a cohort who achieve a minimum level

of proficiency, and not only on the percentage of children in school who achieve minimum proficiency.

4.b. Comment and limitations

Three common issues affect the indicator. First, the age group 3-5 years above the official age of entry into the last grade for a given level of education was selected for the calculation of the completion rate to allow for some delayed entry or repetition. In countries where entry can occur very late or where repetition is common, some children or adolescents in the age group examined may still attend school and the eventual rate of completion may therefore be underestimated. Second, as the indicator is calculated from household survey data, it is subject to time lag in the availability of data. Third, when multiple surveys are available, they may provide conflicting information due to the possible presence of sampling and non-sampling errors in survey data.

Responding to a request by the Technical Cooperation Group (TCG) on the Indicators for SDG 4 - Education 2030, a refinement of the methodology to model completion rate estimates has been developed (Barakat et al. 2021), following an approach similar to that used for the estimation of child mortality rates. The model ensures that these common challenges with household survey data, such as timeliness and sampling or non-sampling errors are addressed to provide annual, up-to-date (through short-term projections) and more robust data, including for children and youth who complete each level later than 3-5 years above the official age of entry into the last grade.

4.c. Method of computation

The number of persons in the relevant age group who have completed the last grade of a given level of education is divided by the total population (in the survey sample) of the same age group.

Formula:

$$CR_n = \frac{P_{Cn,AG_{a+3t5}}}{P_{AG_{a+3t5}}}$$

where:

$CR_n =$ completion rate for level n of education

$P_{Cn,Age_{a+3t5}} =$ population aged 3 to 5 years above the official entrance age a into the last grade of level n of education who completed level n

$P_{Age_{a+3t5}} =$ population aged 3 to 5 years above the official entrance age a into the last grade of level n of education

$n =$ ISCED level 1 (primary education), 2 (lower secondary education), or 3 (upper secondary education)

4.d. Validation

The completion rate model estimates will be consulted with countries. This annual consultation process will give each country’s education ministry and national statistics office the opportunity to review and provide feedback on all data inputs, the estimation methodology and the draft estimates.

4.e. Adjustments

To take into account countries where the eventual rate of completion is underestimated because entry occurs very late or repetition is common, estimated completion rates are also available for cohorts of children or young people aged up to 8 years above the intended age for the last grade of each level of education.

4.f. Treatment of missing values (i) at country level and (ii) at regional level

• At country level

The completion rate can be calculated from older cohorts who are outside of the age bracket specified in the definition of the indicator to obtain estimates for different years. Gaps in national time series can be imputed using the aforementioned model-based to estimate the completion rate.

• At regional and global levels

See above.

4.g. Regional aggregations

Global and regional estimates of the primary, lower secondary and upper secondary completion rate are derived by using the national population in the respective age groups as weights for aggregation of national values.

4.h. Methods and guidance available to countries for the compilation of the data at the national level

Countries can calculate the completion rate using the methodology described in this document. ISCED mappings that help countries report their data in an internationally comparable framework are available on the website of the UNESCO Institute for Statistics (http://uis.unesco.org/en/isced-mappings).

4.j. Quality assurance

The process for quality assurance includes review of survey documentation, calculation of measures of reliability, examination of consistency of indicator values derived from different sources and, if necessary, consultation with data providers.

Before its annual data release and addition to the global SDG Indicators Database, the UNESCO Institute for Statistics submits all indicator values and notes on methodology to National Statistical Offices, Ministries of Education or other relevant agencies in individual countries for their review and feedback.

5. Data availability and disaggregation

Data availability:

The primary completion rate is currently available for 150 Member States, representing 77% of all Member States worldwide. The lower secondary completion rate is available for 155 countries, representing 80% of all Member States. Coverage for the upper secondary completion rate is similar, with data for 155 countries, representing 80% of all Member States. The countries with completion rates are home to more than 90% of the global population.

Time series:

The completion rate is available for the years since 2000. National time series of raw data are incomplete due to the infrequent implementation of household surveys and censuses but time series without gaps are available through the aforementioned reconstructed model-based estimates of the completion rate.

Disaggregation:

The indicator is disaggregated by sex, location, wealth and other dimensions specified in global indicator 4.5.1 (parity index). Model-based estimates are disaggregated by sex.

6. Comparability/deviation from international standards

Sources of discrepancies:

National data are often collected and reported in reference to national systems of education. The mapping from a national classification to the International Standard Classification of Education (ISCED) is not always straightforward and can cause discrepancies between national and international indicator estimates. Additional discrepancies can arise between single point in time estimates from a single source and model estimates, which use efficiently multiple sources.

7. References and Documentation

Barakat, B., Dharamshi, A., Alkema, L., & Antoninis, M. (2021). Adjusted Bayesian Completion Rates (ABC) Estimation. *SocArXiv*. https://doi.org/https://doi.org/10.31235/osf.io/at368

UNESCO Institute for Statistics (UIS). 2019. UIS.Stat online database.

- Primary completion rate: http://data.uis.unesco.org/?lang=en&SubSessionId=c3260ae3-3921-4be9-bae6-e0138dbff642&themetreeid=-200
- Lower secondary completion rate:

http://data.uis.unesco.org/?lang=en&SubSessionId=c3260ae3-3921-4be9-bae6-e0138dbff642&themetreeid=-200

- Upper secondary completion rate:

http://data.uis.unesco.org/?lang=en&SubSessionId=c3260ae3-3921-4be9-bae6-e0138dbff642&themetreeid=-200

UNESCO Institute for Statistics (UIS) and Global Education Monitoring Report. 2019. World Inequality Database on Education (WIDE).

- Primary completion rate: https://www.education-inequalities.org/indicators/comp_prim_v2
- Lower secondary completion rate: https://www.education-inequalities.org/indicators/comp_lowsec_v2
- Upper secondary completion rate: https://www.education-inequalities.org/indicators/comp_upsec_v2